

REMARKS

Examiner's Office Action has been received and carefully considered. Applicant respectfully traverses the rejections under 35 U.S.C. 103. It is noted that the Examiner has not cited any references against Claims 24 and 26.

In this Amendment, Applicant has amended Claim 24 to correct an informality. It is respectfully submitted that no new matter has been introduced by the amended claim. All claims are now present for examination and favorable reconsideration is respectfully requested in view of the preceding amendments and the following comments.

CLAIM OBJECTION:

Claim 24 has been objected as allegedly lacking antecedent basis.

Applicant respectfully submits that Claim 24 has been amended to provide antecedent basis so that the objection has been overcome. Since no prior art has been applied to Claims 24 and 26, these claims should be allowable.

REJECTIONS UNDER 35 U.S.C. § 103:

Claims 1 – 3, 5, 6, 14 – 23, 25, and 27 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Aoyama (US 4,048,968). Claims 4 and 7 – 13 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Aoyama further in view of Murray (US 3,219, 144).

Applicant traverses the rejection and respectfully submits that the embodiments of present-claimed invention are not obvious over Aoyama, or further in view of Murray. There are significant differences between the present invention and cited references.

Neither Aoyama nor its combination with Murray teaches a throttling device which response to pressure of air flow as defined in the present invention. First, the structure between Aoyama and the present invention is different. Aoyama does not have a throttling device which is controlled by pressure of the gas flow in the throttling device wherein cross sectional area of throttling devices reduce when pressure of gas flow increases.

Aoyama have two throttling devices, one is the first EGR control valve 26 and the other is the second control EGR valve 48. The first EGR control valve 26 is controlled by the pressure of intake passageway 16 which is not the gas flow in the throttling devices. The second control EGR valve 48 is controlled by pressure of the gas flow in the throttling device (that is air flow in the EGR passage 24) . when the pressure in the EGR passage 24 between the first EGR control valve 26 and the second control EGR valve 48 increases the pressure in the second chamber 62 will also increases (vacuum reduce means pressure increase) and the diaphragm 64 will move the valve head 52 away from the valve seat 50, the degree of opening of the second control EGR valve 48 increase, which means that the cross sectional area of the second EGR valve 26 will increase (Col. 4, Line 30-39). It is clear in Fig 1 of Aoyama that the pressure of air flow in the EGR passage 24 is connected to the second chamber 62 which is above the diaphragm 64. When the pressure in the EGR passage 24 increases, the diaphragm 64 will move down and this is the direction which the valve head 52 moves away from the valve seat 50. When the valve head 52 away from the valve seat 50, the cross sectional area of the second EGR valve 26 will increase.

Therefore, it is clear the second EGR valve 48 is not a throttling device wherein cross sectional area of throttling devices reduce when pressure of gas flow increases.

Second, the goal of Aoyama and this application is different □The goal of Aoyama is to maintain the pressure **before** the throttling devices□ The goal of this application is to average (or maintain) the pressure **after** the throttling devices□

The goal of Aoyama is to maintain the pressure in the EGR passage 24 between the first EGR control valve 26 and the second control EGR valve 48(col. 4 line 44-47). This is to maintain the pressure before the second control EGR valve 48. Since the pressure in intake passage does not change much, "to maintain the pressure before the second control EGR valve 48" is just "to maintain the pressure differential between upstream and downstream of the second EGR valve 48" (col. 4 line 47-49). The goal of Aoyama cannot be used in muffler, because the pressure before the valve is the back pressure of a muffler, which will reduce engine power and reduce efficiency of energy. The present invention successfully avoided this drawback by a different structure.

The "ping ping" exhaust noise comes from the pulse of the exhaust gas flow. This invention uses selective throttling of a throttling device to cut off the pulse of the exhaust gas flow for reducing the exhaust noise. Since the pressure before the throttling device is the back pressure of a muffler. It is not necessary to maintain the pressure in a muffler. At most, it only needs to average (like maintain) the pressure of export of a muffler that is after the throttling device.

The goal of maintaining the pressure before the throttling devices and after the throttling devices must be achieved with different throttling devices operating means. To maintain the pressure before the throttling devices, it must within the operating manner that cross sectional area of throttling devices increases when pressure of gas flow increases.

Third, even if EGR system have a throttling device which is controlled by the pressure of EGR passage wherein the cross sectional area of throttling device reduce when pressure increase, it is also a different design compare with this application, for following four reasons:

1. Different technical field .

Exhaust Gas Recirculation (EGR) and muffler are in different technical fields.

2. To be set in Different passage of engine

EGR passage is from exhaust system to intake system of an engine. Muffler is in exhaust system which is from engine to atmosphere. EGR passage and muffler passage are different passage of an engine and they are in parallel relationship. The effect which EGR passage acts on exhaust system is just same with leak of exhaust system, without any muffling effect.

3. Different function in different engine passage

The function of throttling device in EGR passage is to control air flow flux (col. 1 line 25-29). EGR passage is a closed passage of engine and it does not need muffling. Muffler cannot control air flow flux. The exhaust flux of engine cannot be throttled and must flow to atmosphere entirely. Otherwise, the throttled flux will stay in engine and stop the engine power. In this invention, the function of throttling device is muffling which use selective throttling to cut off the pulse of exhaust gas which cause "ping ping" exhaust noise.

4. Different goal with different function, and then is different structure or parameter

Since the air flow flux of a throttling device is only related to air pressure differential between upstream and downstream of the throttling device. Without any relation with pressure of the throttling device, the goal of throttling device in EGR passage must be controlling the pressure differential between upstream and downstream of a throttling device (col. 4 line 47-57) to control air flow flux.

Throttling device in muffler is use selective throttling to cut off the pulse of exhaust gas flow which cause "ping ping" exhaust noise. It can only average (or control) the pressure downstream the throttling device. Throttling device to control pressure differential and to average (or control) downstream pressure must with different structure or parameter.

Due to above indicated differences, there is no motivation or reasonable expectation of success to combine Apyama and/or Murray. Therefore, Even if they are combined, a person of ordinary skill in the art will not discern the present invention at time of its invention.

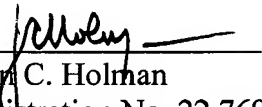
Therefore, the newly presented claims are not obvious over Aoyama and/or Murray. The rejection under 35 U.S.C. § 103 has been overcome. Accordingly, withdrawal of the rejections under 35 U.S.C. § 103 is respectfully requested.

Having overcome all outstanding grounds of rejection, the application is now in condition for allowance, and prompt action toward that end is respectfully solicited.

Respectfully submitted,

JACOBSON HOLMAN PLLC

Date: October 21, 2008
(202) 638-6666
400 Seventh Street, N.W.
Washington, D.C. 20004
Atty. Dkt. No.: P70465US0

By 
John C. Holman
Registration No. 22,769